STATEMENT OF BASIS

FOR THE ISSUANCE OF
A NPDES PERMIT

U.S. Environmental Protection Agency
Region 5, NPDES Programs Branch - WN-16J
77 West Jackson Boulevard
Chicago, Illinois 60604
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Public Notice No.: 12-07-01-A

Public Notice Issued On: July 27, 2012

Comment Period Ends: August 27, 2012

Permit No.: MN-0022110-3 (REISSUANCE)

Application No.: MN-0022110-3

Name and Address of Applicant:

City of Waubun
P,O. Box 187
Waubun, Minnesota 56589

Name and Address of Facility Where Discharge Occurs:

Waubun Wastewater Treatment Facility
Popple Grove Township
Waubun, Minnesota
Mahnomen County
(S. ½ of the N.E. ¼ of Sec. 25 of T143N, R42W)

Receiving Water: Unnamed ditch to Spring Creek

DESCRIPTION OF APPLICANT'S FACILITY AND DISCHARGE

The above facility is located within the exterior boundaries of the White Earth Indian Reservation. The EPA has retained the authority to issue NPDES permits to facilities with discharges to waters of the United States within the exterior boundaries of Indian Reservations. The EPA is issuing this NPDES permit under the authorities of the Clean Water Act.

The application and plans indicate that the existing treatment system consists of one lift station, approximately 3,375 feet of six-inch force main, one pump station, and a two-cell stabilization pond.

The facility has a controlled discharge {Discharge 010 (N.E. ¼ of Section 25, T143N, R42W)} to an unnamed ditch that leads to Spring Creek and is designed to treat an average influent flow of up to 42,000 gallons per day (gpd) with a five-day biochemical oxygen demand (BOD_5) strength of 450 milligrams per liter (mg/L). The primary and secondary cells have surface areas of 7.8 and 2.9 acres, respectively. The pond system has a total detention time of approximately 387 days at design flow.

There are no bypass or overflow points known to exist in this treatment system.

The facilities are further described in plans and specifications on file with the MPCA (Permit No. 6112 dated May 13, 1969) and in an engineering report by the firm of Larson-Peterson and Associates, Inc., Detroit Lakes, Minnesota.

The draft permit requires the applicant to meet the following effluent limitations:

Limitations and Monitoring Requirements		
Parameter	**30-Day Average**	**7-Day Average**
$CBOD_5$	25 mg/L	40 mg/L
TSS	45 mg/L	65 mg/L
E. coli	126 E. coli/100ml	235 E. coli/100ml (daily maximum)
pH	6 S.U. (Minimum)	9 S.U.(Maximum)

Discharge is limited to a maximum 6 inches per day. Discharge flow was calculated as follows:

> 2.9 acres x 0.5 feet/day (6 inches/day) x 325,900 gallons per acre-ft ≈ 0.47 million gallons/day

Loading limits in the permit were calculated using the following formula:

> (0.47 mgd * limit (mg/L) * 3.785) = Loading (kg/d).

Section 401 Water Quality Certification

EPA is the appropriate authority for purposes of certifying the proposed discharge under Section 401 of the Clean Water Act. Section 401 certification is not needed from the state or the White Earth Band of Chippewa Indians as neither has federally approved water quality standards applicable to the receiving water at the point of discharge.

Basis for Permit Requirements

The limits were developed to ensure compliance with 40 CFR Parts 131 and 133, EPA's water quality criteria and protection of Minnesota's water quality standards where they are applicable.

5-day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)

The limits for $CBOD_5$ are based on secondary treatment requirements pursuant to 40 CFR Part 133. A 7-day average limit of 40 mg/L and a 30-day average limit of 25 mg/L are carried from the previous permit. The permittee has been in substantial compliance with these limits. The 7-day average and the 30-day average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

Total Suspended Solids (TSS)

The limits for TSS are based on equivalent to secondary treatment requirements pursuant to 40 CFR Part 133. A 7-day average limit of 65 mg/L and a 30-day average limit of 45 mg/L are carried from the previous permit. The permittee has been in substantial compliance with these limits. The 7-day average and the 30-day average are the arithmetic mean of pollutant parameter values for samples collected in a period of 7 and 30 consecutive days, respectively.

E. coli

The limits for E. coli are based on the EPA's water quality criteria. The geometric mean of samples collected over a 30-day period shall not exceed 126 E. coli per 100 milliliters (ml). Any single sample shall not exceed 235 E. coli per 100 ml.

Phosphorus

Under the Boundary Waters Treaty of 1909 signed by the United States and Canada, "waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other." Lake Winnipeg in Manitoba exceeds the province's water quality standards. The discharge from this facility will eventually enter the Red River which discharges to Lake Winnipeg. Looking at existing effluent quality, the discharge is an insignificant source of phosphorus to Lake Winnipeg. In the *State of Lake Winnipeg: 1999 to 2007* that came out in June of 2011, the Red River contributes 5380 tonnes of phosphorus per year to Lake Winnipeg. At the existing effluent quality (~10 kg/year), the discharge contributes less than 0.0002 % of the load to the lake. This assumes phosphorus does not decay as it travels from the discharge point to the lake. Since phosphorus does decay as it travels, the permittee's actual contribution would be less. We do not believe a limit is needed at this time. The permit does require the permittee to develop and implement a phosphorus management plan to further reduce phosphorus discharges where possible.

Total Sulfates

Monitoring is required to provide information related to sulfate levels being discharged from wastewater treatment ponds and the possible impacts to wild rice waters. The data will be used to determine if the discharge will cause or contribute to a violation of Minnesota's water quality standard for sulfates in wild rice waters.

Asset Management – Operation & Maintenance Plan

Regulations regarding proper operation and maintenance are found at 40 CFR § 122.41(e). These regulations require, "that the permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit." The treatment plant and the collection system are included in the definition of "facilities and systems of treatment and control" and are therefore subject to the proper operation and maintenance requirements of 40 CFR § 122.41(e).

Similarly, a permittee has a "duty to mitigate" pursuant to 40 CFR §122.41(d), which requires the permittee to "take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment."

The draft permit requirements are the first steps of an asset management program which contains goals of effective performance, adequate funding, adequate operator staffing and training. Asset management is a planning process that ensures that you get the most value from each of your assets and have the financial resources to rehabilitate and replace them when necessary, and typically includes five core elements which identify: 1) the current state of the asset; 2) the desired level of service (e.g., per the permit, or for the customer); 3) the most critical asset(s) to sustain performance; 4) the best life cycle cost; and 5) the long term funding strategy to sustain service and performance.

EPA believes that requiring a certified wastewater operator and adequate staffing is also essential to ensure that the treatment facilities will be properly operated and maintained. Mapping the collection system with the service area will help the operator better indentify the assets that he/she is responsible for and consider the resources needed to properly operate and maintain them. This will help in the development of a budget and a user rate structure that is necessary to sustain the operation. The development and implementation of a proactive preventive maintenance program is one reasonable step that the permittee can take to demonstrate that it is at all times, operating and maintaining all the equipment necessary to meet the effluent limitations of the permit.

Special Conditions

- The permit requires the development and implementation of an Operation & Maintenance Plan. The plan covers the use of a certified operator to oversee the facility, having adequate staff to help ensure compliance with the permit, mapping the treatment system, developing a preventive maintenance program and other items.
- The permit contains Industrial Waste Pretreatment Program requirements in accordance with 40 CFR Parts 122 and 403.
- Compliance with 40 CFR Part 503 (sludge use and disposal regulations). These requirements were developed using the Part 503 Implementation Guidance for sludge and 40 CFR Parts 122, 501, and 503. It is not expected that any sludge will be used or disposed of during this permit term. EPA is to be contacted if sewage sludge is to be removed from the pond system.
- Dikes must be maintained and vegetation cut.
- The permit requires the development and implementation of a Phosphorus Management Plan.

Significant Changes From The Last Permit

Following are the significant changes in the draft permit:

- Daily maximum limits for E. coli have been added to be consistent with 40 CFR § 122.45(d).
- During discharge, the permit requires two times per week observations of the outfall to look for unusual characteristics of the discharge.
- The permit requires monitoring of the effluent for and sulfates.
- Development and implementation of a Phosphorus Management Plan.
- Requirements related to Asset Management have been added.
- The Industrial Waste Pretreatment Program language has been updated.
- The Sludge Disposal Requirements language has been updated.
- The “Standard Conditions” have been revised.

ESA and NHPA Compliance

EPA believes it has satisfied its requirements under the Endangered Species Act and is in the process of satisfying the National Historical Preservation Act. As this is an existing discharge, with no planned construction during the permit term, EPA believes that the issuance of the permit and the continued operation of the facility will have no effect on endangered or threatened species or their critical habitat and will have no impact to historical, archeological, or cultural resources.

The permit is based on an application dated April 26, 2012 and additional supporting documents found in the administrative record.

The permit will be effective for approximately five years from the date of reissuance as allowed by 40 CFR § 122.46.

Written By: John Colletti July 2012
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